

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference CGL04/0034WO	FOR FURTHER ACTION	See item 4 below
International application No. PCT/US2005/003282	International filing date (<i>day/month/year</i>) 03 February 2005 (03.02.2005)	Priority date (<i>day/month/year</i>) 03 February 2004 (03.02.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant CARGILL, INCORPORATED		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	<table style="width: 100%;"> <tr> <td style="width: 50%;">Date of issuance of this report 07 August 2006 (07.08.2006)</td> <td style="width: 50%;">Authorized officer Simin Baharlou</td> </tr> <tr> <td colspan="2">e-mail: pt09@wipo.int</td> </tr> </table>	Date of issuance of this report 07 August 2006 (07.08.2006)	Authorized officer Simin Baharlou	e-mail: pt09@wipo.int	
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e-mail: pt09@wipo.int					

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

18/8

PCT

REC'D 01 JUL 2005

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/003282

International filing date (day/month/year)
03.02.2005

Priority date (day/month/year)
03.02.2004

International Patent Classification (IPC) or both national classification and IPC
A23J1/12, A23J1/16, C08B30/04, A23K1/16, A23K1/18, A23J1/00

Applicant
CARGILL, INCORPORATED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/003282

Box No. 1 Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/003282

Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18,20,21,28,29
	No: Claims	19,22-27,30
Inventive step (IS)	Yes: Claims	1-18,20,21,28,29
	No: Claims	19,22-27,30
Industrial applicability (IA)	Yes: Claims	1-30
	No: Claims	

2. Citations and explanations

see separate sheet

Ad V

1. Reference is made to the following documents:

- D1: US-A-4 361 651 (KEIM CARROLL R) 30 November 1982 (1982-11-30)
- D2: US-A-5 410 021 (KAMPEN WILLEM H) 25 April 1995 (1995-04-25)
- D3: US-A-5 968 585 (CHERYAN MUNIR ET AL) 19 October 1999 (1999-10-19)
- D4: WO 02/067698 A (BASILE DE CASTRO FERNANDO ; LAWTHER JOHN MARK (DK); BIOVELOP INTERNAT) 6 September 2002 (2002-09-06)
- D5: US-A-5 254 673 (COOK RICHARD B ET AL) 19 October 1993 (1993-10-19)
- D6: ANONYMOUS: "Preparation of edible proteins from the by-products of corn wet milling (CPC International)" RESEARCH DISCLOSURE, KENNETH MASON PUBLICATIONS, HAMPSHIRE, GB, vol. 185, no. 19, September 1979 (1979-09), XP007106760 ISSN: 0374-4353
- D7: US-A-3 928 631 (FREEMAN JERE E ET AL) 23 December 1975 (1975-12-23)

2. The subject-matter of claims 1-18, 20, 21, 28 and 29 is considered to be novel (Article 33(2) PCT), because none of the cited documents discloses a process comprising contacting one or more protein containing materials with one or more wet-mill streams and one or more carbohydrases.

3. Closest prior art is considered to be D1, which discloses enzymatic saccharification of starch, followed by recovery of fibre, destarched protein and sugar solution. In D1 however, the starting material is not combined with one or more wet-mill streams. The technical problem to be solved over D1 is considered to be how to improve the wet-milling process in terms of protein/sugar yield (see also present Examples 5 and 6). The solution of combining two components and adding carbohydrases was not foreseeable on the basis of the cited documents, because in the cited prior art at most water is added with the enzymes (see D5 Example 1, D6 first page and D7). Thus, the subject-matter of claims 1-18, 20, 21, 28 and 29 is also considered to involve an inventive step (Article 33(3) PCT).

4. The subject-matter of claims 19, 26 and 27 is not considered to be novel or to involve an inventive step in view of the same documents. Furthermore, the claims do not meet the requirements of Article 6 PCT, because they are not clear;

it is clear from claim 1 and description p.1-4 claims 19, 26 and 27 lack technical features which are essential to the definition of the invention. Since independent claims 19 and 26 do not contain these features they do not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

5. The subject-matter of claims 22-25 and 30 is not novel, because:

D2 discloses in Examples 1 and 2 a corn protein isolate obtained without using saccharification enzymes;

D5 discloses purification of corn gluten, using α -amylase to hydrolyse starch (Examples 1-3 and Table 4).

D6 discloses corn gluten product, obtained by enzymatic solubilisation of starch by α -amylase.